



Data Science Fundamentals

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Module 0. About the Course (10 min)

Module 1. Setting the Stage (60 min)

- *Basic Concepts*
- *Value Chain Analysis*
- *Thinking Styles*
- *Research Methods*

Module 2. Introducing Data Science (49 min)

- *Data Science Concepts*
- *Aspects of Science in Data Science*
- *Value Framework*
- *Module Summary*

Module 3. Being Data Driven (26 min)

- *Pursuit of Value*
- *Data Driven Organizations*
- *Success Factors*

Module 4. Data and Technology Landscape (88 min)

- *Big Data – The Open Catalyst*
- *Data Resources*
- *Data Management*
- *Discovery and Exploration*
- *Model Building*
- *Model Execution and Analysis*
- *Interpretation and Storytelling*

Module 5. Modeling and Analysis Techniques (55 min)

- *Problem Framing*
- *Research Methods*
- *Modeling Techniques*
- *Model Deployment*